Connectivity and Equity in the Americas
Program Initiative Final Report 2006-2009

Report Submitted to the External Review Panel

Information and Communication Technologies for Development
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BACKGROUND

Since April 2006, the Connectivity and Equity in the Americas (CEA) program has supported research on the use of Information and Communication Technologies (ICTs) as a means to foster sustainable development in Latin America and the Caribbean (LAC). It builds on the work done by a) Pan Americas, an IDRC Information and Communications Technologies for Development (ICT4D) program initiative (PI), and b) the Institute for Connectivity in the Americas (ICA), which has been hosted at the IDRC since it was established at the Quebec City Summit of the Americas in April 2001. Since 2001, ICA and Pan Americas worked for three years in a complimentary way, but their goals, strategies, and activities were not fully integrated. While Pan Americas aimed at supporting applied research on the social impacts of ICTs access and use, ICA centered its work on testing, demonstrating and promoting the dissemination of proven ICT models and lessons in multi-stakeholder environments (this included high-ranking decision makers in governments, NGOs and the private sector). Since the inception of CEA (which builds on the previous work of Pan Americas), ICA has been fully integrated into the new program initiative and constitutes an integral part of the work that the Centre does on ICT4D in Latin America and the Caribbean. This report, therefore, covers the activities of both programs and refers to "CEA/ICA" as a single programming initiative.

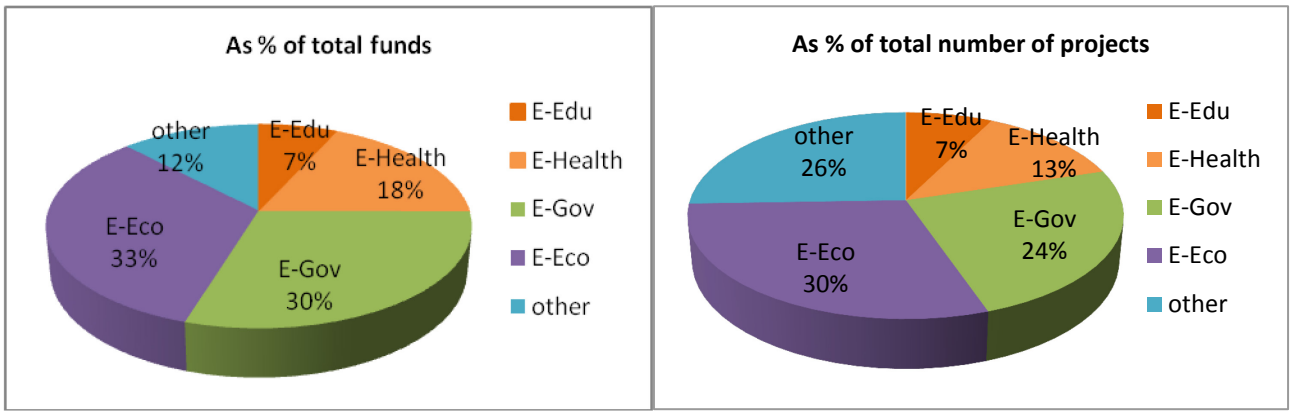
As part of IDRC´s overall programming architecture on ICT4D[1], the CEA/ICA PI supports applied research projects on the social uses and impact of ICTs, with an emphasis on building local research capacity and influencing public policy in the LAC region. The supported projects focus on innovative technological approaches to help bridge the digital divide and contribute to effectively inserting LAC countries into the information society. The program also plays a unique and important role by bringing together stakeholders from different sectors to scale up initiatives at a regional level. Exploring the possibilities that new technologies offer for poverty reduction, employment creation, and sustainable and equitable development in the LAC region is the principal aim of CEA/ICA, in line with IDRC's objective to produce, disseminate, and foster the application of research results in the policy-making process (for more details on objectives and rationale of the program, see Annex 1).

Themes & cross-cutting issues

Four themes (thematic pillars) were selected to focus the work of the program during this period. The selected themes emerged mainly from consultations with key actors and partners in the region for the preparation of the CEA/ICA prospectus. The consultations included stakeholders from research centres, academia, non-governmental organizations, as well as public and private sector entities and individuals. From these processes four areas of development concern were identified: (a) e-economy, (b) e-health, (c) e-education, and (d) e-citizenship[2] (for more detail on themes see Annex 2). In addition to the framework defined by the above-described themes, CEA/ICA's approach is informed by three cross-cutting issues identified as common and relevant to all the thematic pillars: policy innovation, appropriate technologies and gender perspective (see Annex 2).

Programming to address the development issues raised in each pillar was planned according to a reasonable distribution of funds, staff and time to each of the selected program pillars. On average, for the whole programming period, CEA/ICA allocations were relatively well-balanced in terms of the distribution by thematic pillars: 25% of CEA/ICA funding has gone to the "e-enablers" area (e-health and e-education combined), while 30% of CEA/ICA funds have been allocated to e-government and 33% to work on the e-economy pillar (see Figure No. 1).

Figure No. 1 CEA/ICA Allocations by theme: 2006 - 2010[3]



Programming Modalities, Challenges and Responses

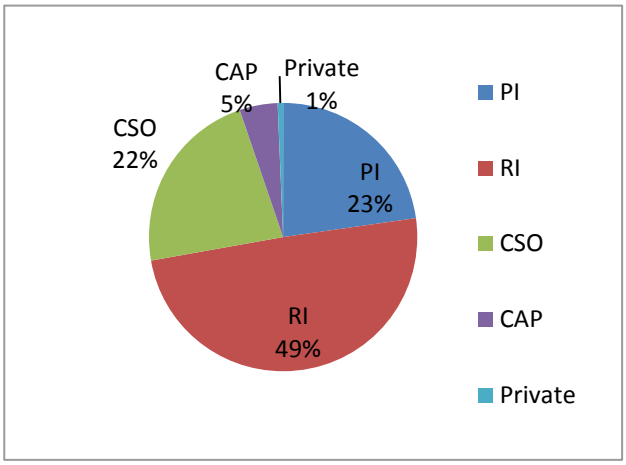
The CEA/ICA project development process included three modalities. First, an institution could submit an unsolicited proposal for assessment by the team. Second, CEA/ICA could invite partners to work on a particular issue defined by the program, including through research competitions and calls for proposals. Third, project proposals were developed jointly by CEA/ICA and other key regional partners, policy institutions and donors. To be selected, project proposals needed to show:

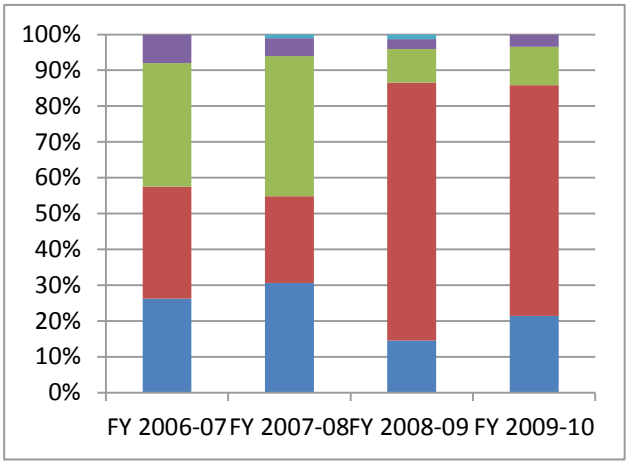
- a solid argument justifying the choice of topic and an alignment with CEA/ICA objectives;
- objectives that respond to at least one of CEA/ICA thematic pillars;
- a regional scope or the ability to be replicated in other countries;
- an innovative approach in relation to the topic/problem to be addressed;
- outputs and outcomes could have wide applicability;
- a clearly-defined and well-elaborated methodology in place; and
- a well thought out policy influence and communication strategy.

The way in which the CEA/ICA PI operated during the past period has been considerably influenced by the "legacy" of some elements of the ICA *modus operandi*. An analysis of the type of CEA/ICA recipients reveals that the program has, on average, prioritized working with research institutions. As noted earlier, and in part as a legacy of the previous programs[4] during the first years of this programming cycle, civil society organizations (CSOs) and policy institutions had a higher presence in CEA/ICA

allocations. While the program evolved, it made great efforts to build an academic community interested in working on ICT4D and the funding towards this community has grown steadily to represent about half of total CEA/ICA funds (see Figure No.2 below). The program has continued working, though, with CSOs and policy institutions that are frequently better positioned to influence the policy process.

Figure No. 2 CEA/ICA Allocations by type of recipient





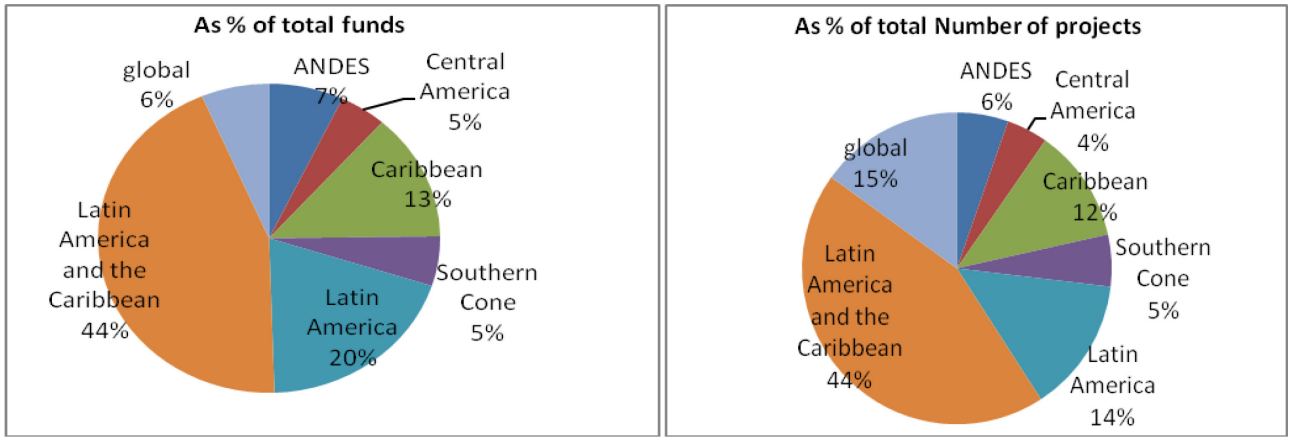
Acronym List for Figure No. 2:
PI: Policy institution
RI: Research institution
CSO: Civil society organization
CAP: Centre administered project
Private: Private sector funding

The CEA/ICA program invested a significant portion of its resources (44%) in projects that are regional in scope or have institutions from several countries involved in them[5]. In terms of subregions, it was difficult to distribute projects and resources equally across the whole region. Some areas and countries have research skills and capabilities that are scarce or largely absent in others (see Figure 3). There were a few cases in which a project was carried out in a single country. In those cases the project had to show the potential for replication across other countries of the region once the testing period was over[6].

This approach to programming is based on the rationale that: (a) it allowed for knowledge sharing/transfer and collaborative knowledge generation among participant researchers, (b) a regional or sub-regional network would develop and present research findings that are less likely to be negatively influenced by local politics and (c) the mix of research institutions from various countries provided more stability and resilience to the activity. The downside of this approach is that: (a) research and its findings were not as responsive to the specificities of local needs and (b) research often was not able to benefit from the windows of opportunities that periodically open up in the local policy environment. To address these weaknesses, a mixed approach of layers of regional, sub-regional and local components were developed in some projects[7].

One of the main challenges faced by the PI has been the need to operate and evolve in a rather unstable environment. This has been the case in various aspects of the PI components. A key challenge has been to integrate in a smooth and progressive fashion the two previous different programs (Pan Americas and the Institute for Connectivity in the Americas) that functioned with two different program structures, objectives, operating philosophies, budgets, staff and levels of integration into IDRC itself. This had to be achieved in the context of scarce human resources and considerable uncertainty and flux in the availability of financial resources. Despite these challenges, the PI has managed to maximize synergies from these initially divergent approaches by converging them into a single, coherent program. Part of current successes might be explained by the ability to exploit the complementary aspects of their agendas and mixing in a creative and non-traditional fashion the strength in research and implementation that each of them had.

Figure No. 2 CEA/ICA Allocations by subregion: 2006 - 2010[8]



On the human resources side there has been a significant turnover of CEA personnel and it has been challenging to find professionals with the required level of skills, expertise and experience to be effectively integrated into the program's activities. The requirement of combined knowledge and skills in social science research and ICTs, paired with the demand for fluency in English and Spanish, created a professional profile that was not easy to find. On the financial aspects of programming, the extended period of uncertainty over a possible second phase of the ICA program affected the ability of IDRC to properly plan in advance the availability of financial resources for the ICT in the Americas program area. By the time ICA II became a reality and resources became available, the requirement for a speedy allocation of funds put considerable pressure on the team's human resources (aggravated by the fact that during the 2009-10, fiscal year the PI lost 50% of its program officers including those with the most experience). While these aspects put additional strains on the program, the PI has kept its course implementing the proposed programming activities presented in the prospectus.

RESEARCH FINDINGS

At the core of the five-year prospectus was a focus on improving the understanding in the LAC region of when and how ICTs can be instrumental to advance equitable human development in the areas of the four thematic pillars. It was observed that many countries in the region were struggling with effectively integrating ICTs into their development agendas to achieve positive development outcomes within these domains. CEA's projects tackle research questions aimed at improving understanding of practices and policy regimes to enable more effective integration and implementation of ICTs into countries development agendas, ultimately contributing to desired development outcomes.

Most of the research projects supported by the CEA Program are still in progress and some final results will not be available before 2013. However, from a cross-project and cross-thematic perspective, the current projects already provide some insights into the broad questions of when and how ICT applications and policy regimes play an instrumental role in achieving equitable development outcomes. Below we highlight some of these higher level findings that reflect learning that speak to the research pillars and cross-cutting themes, but also more broadly to the discipline of ICTs and development. The results presented are based on a review of the outputs of the research projects and categorized according to how they speak to the research questions posited in the prospectus.

1. ICTs are contributing to growth in Latin America, but there is a need for a wide range of innovation in policies for creating an inclusive information society

The creation of an inclusive information society in Latin American and the Caribbean is at the core of programme priorities. Understanding how the diffusion of the new technologies evolves in the region and its impact on growth and equity is fundamental for the design of meaningful policies.

The collection of econometric research using harmonized household and enterprise data led by the Observatory for the Information Society in Latin America and the Caribbean (OSILAC) - Phase III project (#104416)[9] constitutes the first systemic attempt to measure the socio-economic impact of access and use of ICTs at the regional level. The maturation of the partnership between OSILAC and the National Statistics Offices allowed the crossing of ICT-related data with a wide range of socio-economic indicators. The research conducted during the period shed new light on the relationship between ICT, economic development and equity in LAC. Among the main findings, the research - using household data- shows that there is a sizable return to internet use for both salaried and self-employed workers which range between 18% and 30% based on the analysis of six countries in the region. These figures are much higher than those obtained in the US for similar data, demonstrating the potential of these tools in developing countries. The research using the enterprise data in six countries also identified a strong connection between ICT investments and productivity improvements. Gains in labour productivity are particularly relevant when complemented by

investments in organizational change (as demonstrated in the case of Argentina)[10] and reinforced by the investments in intangibles such as human capital and innovation (as shown by the study in Colombia)[11].

These significant results need to be balanced with findings on the impact of ICT diffusion on equity. In this area, the evidence is based on representative samples from 15 countries showing that internet diffusion is still concentrated in narrowly defined segments of income and educational groups in each country[12]. Across countries, there is also evidence that the lower the internet diffusion, the higher the inequality of that diffusion. The results from econometric analysis confirmed that variables such as income, education and rural/urban areas are key determinants of internet diffusion[13]. Thus, it is possible that gains associated to internet access (such as impact on earnings) may reinforce historical patterns of concentration. This implies that strategies for full comprehensive diffusion need to be promoted to spread the benefits of the new technologies (i.e., regulatory and universal access policies). Furthermore, the existence of complementary investments is an important condition to expand the benefits of new technologies throughout the entire society[14].

In terms of widespread access to and socio-economic benefits from ICTs, mobile phones play a particularly significant role. The research project Regional Dialogue on the Information Society Network (#103371)[15] was one of the first in the LAC region to show that mobile phones are contributing to positive socio-economic development outcomes. The results from a seven-country survey[16] demonstrated the extent and depth of the diffusion that mobile telephony has achieved among poor households. Results published in an edited volume in 2007[17] found that low-income communities were using mobile telephony intensively to access services and create new opportunities to improve their quality of life, even if it meant that they would spend 6.3% of their income on these services[18]. In providing evidence on the positive economic and social impacts of mobile telephony used by the poor, the study succeeded in influencing the policy agenda, promoting serious discussion about affordability of mobile telephony[19]. Although mobile phones are still treated as a mainstream communication device and no specific policy has been developed in the region to promote it as a development tool for the poor, the recent results indicate that there has been progress in the right direction. In general, mobile tariffs in Latin America are falling, although they remain higher than those of developed countries and much higher than those of emerging markets in Asia. The analysis shows that there is a long way to go before the region reaches affordable pricing that will enable a wider use of mobile telephony, thus enabling them to receive the positive benefits.

In addition, the research led by DIRSI sought to grasp the multiple dimensions of access to ICT services as well as the barriers to their productive use. This research suggested next-generation policy reforms that build on the achievements of market liberalization efforts but at the same time address the realities of what was called ‘digital poverty’[20]. Following this line of work, innovative methodologies and policy solutions to universal access challenges (e.g., alternative backbones and mobile applications) and ways of measuring the performance of the ICT sector in providing appropriate and affordable services to the poor have been examined in a number of research projects[21].

2. ICT appropriation is driving new models of production, diffusion, and consumption of digital content in the South

Key questions proposed in the e-economy pillar of the prospectus were related to new and innovative ways of treating property rights in the digital era. A number of ICA/CEA research projects demonstrated the role of ICTs in the development of public goods and new models associated with the production, diffusion, and consumption of digital content, including how new licensing models such as Creative Commons also create new tensions between legality and illegality in developing countries. Following the prospectus, the research on e-economy examined the potential that open and free content and services have for development, and on how they could benefit a large number of people through innovative business models.

The project Open Business Models in Latin American and the Caribbean (#103515) examined ways of doing business related to information, knowledge and culture in which intellectual property (IP) is neither the primary incentive nor primary source of remuneration ("Open Business"). The goal of the project was to investigate the appropriation of technology on the part of the so-called "global peripheries", to understand how it changes business, culture, and the public sphere as a whole. The results of the first phase of research pointed out that although the appropriation of technology has generated vigorous cultural industries in local peripheries in Latin America, it still faces many challenges. The initial project focused on emerging peripheral networks that are taking place in spite of any intellectual property incentives (generating in many instances effective open business models). This indicates that these networks could provide alternative arrangements of production that illustrate how cultural business in the developing world could be carried on in the digital age. The second phase of the project (#103515) expanded the research on open business models initiated in Belem, Brazil (specifically in the Tecnobrega scene in Belem – Northern region of Brazil)[22] to other countries of Latin America; namely, Colombia ("Picó") and Argentina ("Cumbia Villera")[23].

CEA/ICA-supported research on piracy showed that there is also a strong reaction from the established IP regime to the structural changes led by the spread of new models. The project "Media Piracy and Enforcement in Brazil: Costs and Benefits" (#104333) presented a broad picture of the relevant legislative scenario in Brazil as of 2009. It did so by mapping out the agents and relations within the IP enforcement institutional ecosystem in Brazil and the legislation under debate in the Congress, the prospect of a copyright reform bill, and the transference of the intellectual property agenda to other domains of regulation. An historical analysis showed how anti-piracy efforts have succeeded in creating a legal environment in which the government has repeatedly strengthened criminal penalties for intellectual property infringements. Research results have been important for promoting a stronger standing for civil society inside the legislative debate on regulation that promotes the public-interest and enhances public access to media goods.

Digital content for primary education is an area where controversy over intellectual property rights is less acute, allowing a wider range of new models for production, diffusion and consumption of digital data. Among others, research in the project RELPE - Latin American Network of Educational Portals (project # 103811) explored the new

forms of classification schemes for educational resources, providing a bridge between formal accepted schemes for curriculum design and informal collaborative participation[24]. This provides an important basis for decentralized and large scale dissemination of educational resources that may be explored in other areas[25].

3. ICTs are empowering individuals and communities through increased transparency and participation

The Latin American and Caribbean countries are among the most unequal in the world[26]. These inequalities are reflected not just in differences in income level, but also in a wide range of opportunities for social and personal growth (e.g., education, health, citizenship, etc). ICT implementations offer an effective means to alter these social conditions through increasing the potential for access to information flows and participation in decision-making across a variety of domains of social activity. This helps to overcome the asymmetrical access to information and knowledge that is a principal component of social inequality. Several research projects demonstrate and document different ways through which ICTs have, through transparency (increased information flows) and participation, begun to change these structures, empowering individuals and communities to improve their lives. A common theme across these projects is the emergence of a virtuous circle: users generally react well to the new sources of information and interaction, and this leads to an increased desire for more information and enhanced services.

The project Supporting E-government in Latin America and the Caribbean (Red GeALC[27]) Phase II (#103819) documented over 70 cases of innovative e-government solutions from 2007-2009 (excelGOB catalogue), including examples of enhanced government transparency and citizen participation. Indicative of the power of ICTs to enhance transparency and participation across domains, the examples of excellence come from diverse areas such as: public procurement, hospital infection surveillance, public participation on establishing a 10-year education plan, and disaster management among others. The project has also commissioned research that has explored why the 2007 winners of the excelGOB awards were so successful in developing these ICT-based solutions as well as the various barriers to implementing them. In particular, the main ingredient of strong political leadership in support of these e-government projects was found to be the key that enabled projects to overcome most implementation barriers – a finding consistent with the existent e-government literature and the Peñalolén project (#103709)[28].

The project Impact of ICTs on Local Democracy: Transparency and Citizen Participation in the Municipality of Peñalolén - Chile (#103709) experimented with a series of ICT implementations for enhancing participation and transparency at the local level[29]. These included council meetings broadcast online; a digital office for information, complaints and suggestions (OIRS); participatory budgeting; and a portal for students. The project demonstrated the potential and challenges of using ICTs to increase transparency and deepen participation. For example, the OIRS system resulted in a four-fold increase of solicitations by citizens. However, the experience stressed the challenges for public servants to process and respond to the requests, and the importance of developing the required capacities and internal operations to handle the new channels of information

flow. The online council meetings also resulted in a fairly dramatic increase for information requests (4.5% to 32%). Furthermore, 44% of those surveyed wanted a greater diffusion of information and 33% indicated that they would be interested in the possibility of online citizen interaction during the council meetings. The experiments in participatory budgeting demonstrated its feasibility through the Internet, but also revealed challenges with respect to engaging the participation of those in high or medium vulnerability groups.[30]

The project Punto J: a Portal for Youth-to-Youth Education on Health and HIV/AIDS (#103077 and 103814)[31] demonstrated the power of peer-to-peer information flows that bypass the need for expert intermediaries. Within the health sector, the flow of information traditionally passes through an expert, such as a health care professional, or from the government to citizens as in information campaigns. The Punto J experiment showed that trained young leaders and a portal could provide a direct means of access to information, consultations, and exchange for youth on the highly sensitive topic of HIV/AIDS in a contextually appropriate manner**.**

Similarly, the project Enhancing Nurses Access for Care Quality and Knowledge through Technology (ENACQKT) (#104544) focuses on supplying nurses in the Caribbean with Personal Digital Assistants (PDAs) and giving them access to relevant information. Research has demonstrated the some possibilities and benefits from bypassing experts within a professional work environment through the use of PDAs. For example, they documented the unanticipated empowering affects of the technology for the nurses through the reduced reliance on doctors who were traditionally the gateways to essential information. This empowerment is exemplified by the nurses in St. Kitts who successfully lobby to expand the wireless network beyond the original site and have organized additional computer units to consolidate their access to the information[32].

4. Appropriately adapted ICTs are expanding and improving services to underserved communities

CEA/ICA supported research has explored the ways in which ICT innovations can be adapted to different contexts and respond to the particular needs of specific communities. Different technologies have been systematically tested and evaluated for their contribution to achieving specific development goals. In this section we highlight a few of the findings regarding some of the evaluated technologies.

Focusing on widening job opportunities for people with disabilities, the project Telework and the Disabled (#104417) analysed the socio-labour situation and the profile of people with disabilities. The research identified the inclusive potential of web-based technologies for overcoming some traditional factors of exclusion of people with disabilities from labour markets in Latin America. The pioneering analysis in nine Latin American countries[33] provided evidence on the potential of teleworking as a mechanism for overcoming barriers such as inadequate infrastructure (that generates mobility difficulties) and the limitations of the disability itself.

Analysing the intersection between cultural and employment dynamics at the periphery of large cities, the second phase of the Open Business model project[34] documented the unanticipated LAN Houses phenomena in Brazil and informed policy reforms in that

country. The project showed how a Brazilian policy of expanding the possibilities of computer ownership to low-income families through offering government backed credit lines had an interesting, yet powerful, unintended impact. The result was an entrepreneurial explosion of LAN-houses that offer informal access to the Internet as well as a wide variety of services (payment of utility bills, renewal of taxpayer enrolment, etc) for very affordable prices[35].

In order to promote access to rural areas, the research in TRICALCAR (#103816) showed the potential of WiFi and WiMax to build low-cost community-based wireless networks in LAC[36]. The solutions proposed in the training material "Wireless Networking in the Developing World" suggest strategies for designing, implementing, and maintaining low-cost wireless networks[37].

In the area of improving health service delivery, the project ENACKQT (# 104544) is conducting pilot studies of nurses using PDAs. The studies have shown thus far clear improvements in access time to clinical information even after only two months of training and use, such as, for example, time savings of as high as 12 minutes per activity per nurse. Such efficiency gains are critical in highly resource constrained environments.

In addition to those mentioned above, a number of active projects are exploring opportunities to promote the delivery of a broader range of applications through the mobile, including its use in urban produce markets[38], fisherfolk[39] and mobile banking[40]as well as the role of web 2.0, messaging systems, TV and other Internet-based innovations in a range of development issues[41].

5. ICTs can be a powerful catalyst for engagement of youth and entrepreneurs

There were several applied research projects that focused on the research question of how ICTs can contribute to entrepreneurship and youth insertion in the labour market thereby reducing unemployment in the region. These projects demonstrated that ICTs served not only as a tool for training and a source of applicable skills, but also as a powerful driver of youth re-engagement in social life.

Several projects researched how ICTs can be used to engage youth in an attempt to prepare them for and integrate them into the job market. In particular, these projects provide some insight into employment training that uses ICTs (either to improve training or as a subject of training) to engage with marginalized youth. For instance, the project POETA (#104411) demonstrated that it is possible to successfully train at-risk youth (aged of 18-30), as evidenced by their low drop-out rate (only 8%). Entra-21 (#103828) is researching how ICTs can be used to improve the employment and social prospects of youth in Ecuador, Colombia, and Chile. While Entra-21 is just over one year into its 2 year cycle, it is interesting to note that there are more young women enrolled (e.g., 69% female to 31% male in Colombia) in all three of the countries than young men[42]. Thus, in spite of the gender inequality in access to ICTs in the region[43] young females in these countries are able to overcome these cultural barriers that once might have limited access to technology and technology based-jobs[44].

The initial research findings of these projects also show that the simple provision of an online site or basic training in ICTs and entrepreneurship is by no means a guarantee of youth engagement and social inclusion, particularly among the most vulnerable groups. One example is the municipal education portal for students in the municipality of Peñalolen, Chile (#103709) that failed to generate much youth engagement. The existence of youth leaders and engagement offline was probably just as instrumental to the success of Punto J as the nature of the online portal itself. As the options for online engagement compete for the attention of youth, such offline engagement, as well as high degrees of direct relevance to youth's lives are probably necessary ingredients.

The emerging findings in this area also indicate that engaging entrepreneurs requires a multidimensional approach, connecting new technologies, a wide range of skills, appropriate mechanisms for finance and strategic exploration of economic opportunities. Focusing on new technologies, the applied research conducted in the project Development Entrepreneurship (DE) Program (#103954) developed a 'learning by doing' approach to support entrepreneurs that could connect centres of technology excellence and demands of the poorest communities. Based on the seed funds the research team produced over 80 new business plans for the low-income populations led by fellows and students in the MIT Media Labs[45]. The 'learning by doing' approach supported by IDRC travel grants has resulted in enhanced understanding of areas such as health, environment, and education. Several of these projects have been entered in the MIT business plan competition[46] as well as other competitions. The systemic collection of experiences was transformed into new educational material for using mobile phones for development[47]. The research has also pioneered a systemic database on venture capital financing and its impact in developing countries. The findings suggest that over the last three years, private capital for funding for early stage entrepreneurship in developing countries has risen significantly. Although they are still a small source of capital for start-ups when compared, for instance, with loans (and even micro-loans), in some countries private venture capital is overtaking development aid[48]. Despite investments slowing considerably over the last year in connection with the global downturn, funds in developing and emerging markets continue to invest and have strong plans for the future.

In the area of financial instruments, the project Information and communication technologies (ICT) for microcredit delivery (#105244) explored ICT-based models of correspondent banking (CB) being successfully used in Brazil, in order to scale microcredit delivery. Three in-depth case studies with leading banks in the area (Banco Palmas, CrediAmigo and Lemon Bank) provided a detailed description of three different ICT-based models of microcredit delivery. The research examined different combinations among banks, microfinance institutions and correspondents that have been tested around Brazil by leading banks, identifying technological and regulatory bottlenecks in the system. It has demonstrated the potential of the channel for the delivery of microfinance[49], the strengths and weaknesses of different models[50] and the role of network managers[51]. The publications[52] and events have raised the interest of bank, government and microfinance sector representatives to debate the strengths and weaknesses of correspondents, mobiles and other technological channels for inclusive finances[53].

These, among other research findings[54], contribute to a better understanding of the multiple dimensions of entrepreneurship in developing countries, and how ICTs can be a powerful catalyst for the social inclusion of youth and SMEs.

PROGRAM OUTCOMES

In line with IDRC's mandate, CEA/ICA supports applied research projects that seek to produce evidence to inform the debate, design, and reform of policies, laws and regulations. Consequently, a key area to assess CEA/ICA achievements relates to the broad area of "policy influence". For this report CEA/ICA follows IDRC's definition of policy influence, which recognizes three broad ways in which research can affect policy[55]: (a) broadening policy horizons[56], (b) expanding policy capacities[57] and (c) affecting policy regimes[58]. A review of the work carried out by the PI shows that various projects have had an impact in some of these three policy components with varying degrees of success. The PI has also played a key convening role in the region bringing together stakeholders from various sectors (private, public, civil society, academia, etc) to work together in providing practical solutions to some of the main ICT4D related challenges of the region.[59]

1. *CEA/ICA has contributed to the development and dissemination of new ideas resulting in their adoption into the regional development research agenda (agenda setting) and ICT4D field building in LAC*

CEA/ICA has been fairly successful in introducing new ideas in the regional development agenda (i.e., broadening policy horizons) and raising awareness of the opportunities offered and challenges posed by the relentless rise of ICTs across all walks of life.

As the prospectus of the CEA/ICA Program has been influenced by the demands of the region, the supported research projects have been instrumental to advance the regional agenda in the field, both by (a) consolidating and scaling up successful interventions and (b) exploring upcoming challenges to development in which ICTs could play a key role. The program supported projects that were generally quite innovative and faced significant difficulties to find recipients with capabilities and co-funders with interest. These projects began under the radar of regional agendas in ICT4D and were considered relatively high risk activities (given the unclear future of the issue as one of relevance to the development agenda). Despite this, some research networks supported by the program have transformed themselves into important players in the regional development agenda, advancing relevant ICT4D issues among policy-makers. A key evidence of this is the important role of the networks and projects under the CEA/ICA Program in the regional action plans inside eLAC process[60]. Indeed, the initial support to OSILAC/ECLAC was instrumental in setting up this regional agenda[61] and supported the efforts of monitoring the progress of regional governments[62]. The following paragraphs offer additional evidence by thematic pillar of why Agenda Setting and Field Building is a highly relevant program outcome.

<u>E-Citizenship and Governance</u>

One of the factors affecting sustainable development in the region is the high volatility of economic growth, which is often linked with social and political instability. These destabilizing factors are partially explained by the relatively high levels of mistrust of the population in governments rooted in a variety of factors, including lack of transparency, poor services and others.

At the same time, there is a general sense among the populations in the region that they are effectively excluded from political participation except at election time. This sense of exclusion from decision-making processes is even more acute among low-income communities. This often becomes the spark that sets off the fire of social protests leading to political and economic instability. Therefore, while the institutional strengthening of the system still needs improvement, spaces for equitable participation, mainly for the most disadvantaged groups in LAC societies, need to be created[63].

Following this (here simplified) logic, the PI decided to invest efforts and resources to contribute to the modernization of the state (which includes improvements in transparency, participation and service delivery). State modernization was the motivation behind the creation of the Red GeALC (the LAC Network of e-government leaders) and the Inter-American Network of Government Procurement (RICG)[64], in partnership with the Organization of the American States (OAS). Before the existence of these networks, countries in the region were grappling on their own to develop strategies to integrate ICTs into their structures, procedures and services. The development of these two networks has provided key actors in the region with a valuable institutional arrangement to produce, transform and distribute new knowledge (e.g., consultations on solutions among members, training of government officials, publications on innovations, news on recent developments, exchanges of public servants, development of regional standards and procedures, and many other activities) among policy makers of the region. The high value that policy and decision makers of the region assign to these networks have meant that they have become a central reference point in the region when it come to issues related to e-government and e-procurement.

The program's investment in this field has also contributed to positioning the issue of transparency and citizen participation among key policy circles and regional organizations, such as the OAS, the IDB, and the Summit of the Americas process. CEA/ICA's support of the Summit of the Americas process through the creation of a Summit Virtual Platform (SVP) has served to make more transparent the production process of key summit documents and achieve a much higher level of participation and engagement of civil society[65]. Prior to the implementation of the SVP there were only a handful of civil society organizations (those that the OAS could support to attend meetings in Washington DC and other places in the region) that had a say in the process of producing Summit documents and declarations, and those that participated were able to react to hard copies of the documents that were often not the most current versions that government representatives were working on. With the SVP a large number of civil society organizations are now able to participate, work on the latest version of documents, and provide timely feedback and interventions in the development of declarations and other key outputs of the Summit process. Demand and participation grew systematically through the project's initial phase and feedback was

very positive regarding outcomes (75.3% of respondents were very likely or likely to use e-participation tools in the framework of the OAS and the Summits.). Final results showed ~63% of these users had never participated in the Summits Process before and that, out of this 63%, ~53% were not aware of the available mechanisms for Civil Society's participation in the Summits Process. In addition, during the latest Hemispheric Civil Society Forum (OAS, March, 2009) civil society called upon OAS to sustain the new means of interaction.

CEA/ICA projects have also helped conceptualize and develop "e-democracy" initiatives at the local level. In Chile, for example, through a pilot project in Peñalolen[66], one of the first (if not the first) "digital comunas" in LAC was developed and assessed. Peñalolen is today considered a case of best practice in e-democracy in Chile and has led to the implementation of similar initiatives in other municipalities in the country.

ICTs, Openness and Development as an emerging issue

The prospect of increasingly "open environments" associated with ICT adoption[67] is raising several key issues and questions: How and in what circumstances do ICTs enable these open spaces? To what extent is openness necessary to achieve benefits in different domains? What are the new business models to sustain the environmental, social and economic development? What are the negative potential social outcomes from openness, and how can we mitigate them? One project (#103817, component 5) is directly exploring and seeking to establish this new area of inquiry through a call for papers on the topic that received over 80 abstract submissions[68]. Other recent projects are already influenced by questions in this line of research[69]. Emerging ICT applications, in particular social media, are opening the door to new forms of social interaction that are redefining the boundaries between the public and the private. CEA/ICA is thus helping LAC countries deal with the key decisions posed by the information society such as addressing the "transparency vs. privacy" dilemma[70].

New economic models

In the area of economics, CEA/ICA was frequently a pioneer in themes where research was largely absent. One project looked at the role of telework and its potential to generate new work modalities and labour market possibilities[71]. When the first scoping study on telework was launched there was very little awareness of the role that it could play in transforming social practices and the impact it might have on the economy, the environment, and social life in general. The telework projects (#103239 & #104417) have also highlighted the benefits that ICTs can have for developing countries in contributing to the creation of new jobs that are responsive to the new production modalities emerging in the context of an increasingly globalized knowledge-based economy. The work of the PI has played an important role in installing the issue in the regional agenda. Evidence of this is the inclusion of the theme in the eLAC program[72], and new legislation is emerging in the region informed by the activities of some of the telework projects. In responding to the PI's equity concerns these projects have also looked at the potential that telework has for disadvantaged communities, such as those with disabilities[73]. The latest line of work in this area is exploring the pros and cons of telework in reducing gas emissions and, subsequently, contributing to address the challenges posed by climate change[74]. While exploratory in nature, this project will

produce the first-ever in-depth studies in the region on the possible impact that the decentralization of the workplace and work at a distance might have on climate change.

CEA/ICA has supported projects exploring the rise of new business models (in particular, related to intellectual property rights) in the region. Persistent work in this area is helping develop practical strategies to deal with the "informality issue" of open business models[75] in Brazil and other selected Latin American countries. The work also seeks to develop and discuss public policies devoted to the formalization of open business models connected to emerging cultural and creative industries by means of active partnerships with governmental branches. Focusing particularly on the importance of LAN houses for digital inclusion, many of the findings of the Open Business project funded by CEA were broadcasted on the most popular news program on Brazilian national television (reaching an average of 35 million viewers)[76].

The PI supported applied research in the area of computer recycling in previous prospectus periods. The projects were able to raise the issue of electronic waste as a forthcoming challenge with environmental, health and economic consequences for countries of the region. When the first research cycle on the theme was launched, the issue did not receive much attention from policymakers, researchers, civil society organizations, or the media. Yet, due to sustained investment and production of knowledge, the issue and the lead research organization progressively became more visible and recognized regionally. Work on computer recycling has played an important role in creating the institutional, political and intellectual conditions for a regional dialogue among governments, private sector, civil society, international organizations and donors to address the issue (#104414)[77].

Education: access and content

Access to education remains a high development priority in the developing world. Assuming that successful large scale public efforts in early education is one of the preconditions for improved economic growth and development, the PI devoted time and resources to support innovative initiatives in the area of education.

Access to education often equates with access to educational content. In the past, location would determine who had or did not have access to updated and valuable educational content. If that content is structured along the lines of the curricula of the national educational system of the country, it becomes an invaluable resource to transfer knowledge and build capacity among the thousands of students from low income backgrounds and limited access to education. In 2005, there were only two countries in the region that had educational resources available on the Internet, and, thereby making it accessible to all students with access to a connected computer. CEA/ICA, in partnership with Fundación Chile, created RELPE, the LAC Network of Educational Portals. The initiative attracted the interest of Education Ministers of the region that have subsequently joined the Network. Today the network has 19 member countries. The initiative has lead to the creation of national educational portals in almost every country of the region and has become the meeting point for Ministers of Education to discuss innovations in education in the region. Today, thousands of children from the region (including those whose families have very limited income) have

access to valuable educational resources improving their chances to lift themselves out of poverty[78].

Health: innovation and scale

In the area of health, the work supported by the PI has had its fair share of innovations but at a relatively small scale and with a limited influence in agenda setting and/or field building. Some projects did open new areas or new approaches in dealing with health challenges, such as the case of the Punto J project (#103814) that created a new modality in addressing in a preventive manner the threats posed by the spread of HIV-AIDS among youth at risk. Although highly innovative in its constituents and arrangements, the initiative has not been of a scale to spread similar solutions throughout the region. Something similar can be said of the ICTs and Chagas project[79] that has brought some innovative solutions to traditional problems of forgotten diseases such as Chagas, but has neither been scaled up nor had the ability to install the issue in the public health agenda of the region. With the aim of addressing this, the PI is currently working in the development of a large scale project with key players in the health area (including the Pan American Health Organization) through which it hopes to have some influence in the regional health agenda by placing some ICT-based innovative solutions in the policy agenda that can progressively orient the way the public health sector evolves in the region.

2. *CEA/ICA has made a significant contribution in developing research capacities and skills to adopt and effectively use ICTs*

Latin America and the Caribbean is a region in which the research to policy link is weak. This is in part explained by the fact that the LAC region has also been slow (compared to other regions, such as Asia) at developing the required research capacities and skills to adopt and effectively use ICTs. This certainly hampers the integration of ICTs and their benefits into the social, economic and political life of the region. CEA/ICA's efforts have been guided by the belief that research can support the development of innovative ideas and the skills to communicate them and thus contribute to the policy-making process. CEA/ICA has thus worked and achieved significant progress to ensure that knowledge is provided to decision-makers in a form they can use, and nourish dialogues among researchers and decision-makers (i.e., expanding policy capacities).

With the aim of improving research capacity and ICT skills, the PI developed a range of strategies and mechanisms to address both of these issues[80]. In the context of this knowledge transfer and capacity building efforts the PI has supported not only policy transformations through capacity building of those directly involved in the policy process but also of those (such as civil society organizations and multilateral agencies) that have a sustained but indirect influence on policy formation. The levels of success of these efforts have been mixed. The review of projects during this period shows a range of modalities for building research capacity and ICT skills. A brief description and assessment of outcomes associated with them follows.

Building Research Capacity of Partners

Given that the ICT4D field is a relatively new area of scientific inquiry, the PI has engaged with partners with a wide range of strengths and weaknesses during this past

programming period. Some of them, coming from the NGO community or more applied/practical sciences, have been very strong in their advocacy role, providing concrete solutions to development problems and often influencing policy. However these actors often lack sufficient academic and scientific rigor in the development of social science research findings. Other research organizations have been very strong on the use of social science research tools but have been weak on offering practical solutions and have a tangible influence in the policy arena. Hence, the PI has aimed to provide capacity building support on a case by case basis to various partners and projects.

The PI saw an opportunity for strengthening evaluative thinking through monitoring and evaluation (M&E) capacity building as a means of helping partners build better evidence bases. Most partners in the region were either not aware of the relevance of M&E in ICT4D projects or were not familiarized with M&E tools. The program thus identified M&E of ICT4D research projects as a critical area where capacity needed to be built. Most CEA/ICA partners have either received training in specific approaches to M&E (including Outcome Mapping and Logic Framework Analysis -LFA) or, working closely with the CEA/ICA team, have developed some basic M&E abilities[81]. Many of them have continued using these tools beyond the project life-cycle. Aside from the hands-on training opportunities, various papers prepared by experts in the field have been commissioned, which include specific guidelines/recommendations on how to systematically integrate evaluation & monitoring approaches, policy influence, communications and a gender perspective into CEA/ICA projects.

The PI has also supported (with mixed results) other means of building research capacity among partners. One of them has been the pairing of partners with different level of resources, assuming that there will be a transfer of knowledge and skills from the more resourceful ones to the others[82]. This approach has not rendered the gains initially expected either because the lead partner did not have the required skills or resources (time, personnel, funding, etc) to effectively transfer capacity, or the partners were reluctant to engage (pride and self-reliance) in a relationship that they often saw as hierarchal.

In the past, IDRC investments were largely allocated to senior researchers to carry out their work. One of the weaknesses of this approach has been that as senior researchers begin to retire, there has been little or no new blood to carry on and build upon the work already done. With the aim of addressing this matter the PI required some projects [83] to build into their project design a mentorship scheme for young researchers. These efforts are beginning to pay off with several young researchers progressing in a steady and significant fashion in their professional careers. For example, the DIRSI project has held three different Young Researchers Competitions, providing financial support, mentoring, peer review, and coaching on how to submit their work to journals. Another example is the Caribbean ICT Research Program and its recent call for proposals on the “The Caribbean Innovators Challenge: Mobile Applications for Development”[84]. In many projects, young researchers developed their reputation and advanced to new positions of relevance in other organizations[85].

The other approach used by the PI to build capacity among young researchers has been the implementation of small grants programs[86]. The largest one has been FRIDA

(in Spanish “Fondo Regional de Innovación Digital en las Américas”), which, although it received a relatively favourable external review and had considerable visibility in the region, did not deliver the results initially expected by the staff of the PI. Some of the funded projects have been of value and use to diverse players associated with those themes, but most of them have not continued in any significant way beyond the end of the funding period. The limited scope of the project design (an issue that was raised without much success with project partners) and the small amount of funding are, in the view of PI staff, some of the main reasons behind the limited impact of this investment.

The PI has recently introduced a new model that attempts not only to build capacity but also to link research and policy in a structural fashion by placing young professionals as a bridge between the two[87]. A scholarship is provided for young professionals to be located in the division/area of government where policies associated to the theme of the project are produced with the aim of transferring, during the life of the project, knowledge, research findings and policy requirements back and forth from researchers to policy makers and vice-versa. Countries interested in benefiting from the contributions of a young professional will have to make a commitment to integrate research findings to emerging policies and to provide support to the professional development of the grantee. A parallel monitoring and evaluation research project, now in a project planning stage (#106122), will explore the strength and weaknesses of this new approach while simultaneously providing research and research to policy training and support for the young professionals.

In a few cases, the program has strived to build the capacity of LAC institutions for innovation and research on ICT4D by expanding the research agendas of institutions whose “core” research areas did not include ICT4D research. In these cases, the process of project development has been labour intensive but it has had positive externalities in terms of capacity building that go beyond the project itself[88]. This approach has not been successful in all cases. Earlier attempts to introduce ICT4D research in institutions without a major focus on ICTs faced challenges[89]. Subsequently the PI changed its approach by combining institutions with experience in ICT4D research with others that were new to the area in a single project.

Knowledge and skills on ICTs

The PI implemented its work in an environment in which ICTs skills and knowledge were often scarce if not absent. The need to branch out from the more traditional ICT4D partners into other areas (such as health, agriculture, the environment, education, citizenship, governance, and so on) has required a considerable amount of time devoted to raising awareness and building knowledge and skills to assimilate and integrate ICTs in a productive and effective way to the development agenda of the region. In trying to address this issue the PI has implemented projects that addressed the issue from various perspectives.

Some projects looked at the broad national strategies required to develop in a large scale ICT-related knowledge and skills for the coming decades. Outcomes in this line of work have been generally positive, with some specific cases in which the research has served as the basis of new national policy to revisit the curricula offered to students. This is the case of the Costa Rica component of the Knowledge Economy project

(#102497) that explored the changes that were required in the national curricula to prepare students for the 21st century labour market requirements and provided guidelines for curricula reform on ICT skills.

Other initiatives were more applied to specific groups (such as youth at risk, people with disabilities, SMEs, etc)[90] and had a research component that looked at issues from a more practical angle (mixing actual ICT training with applied research geared to address short term problems of specific populations). The results of this line of work have been positive but its impact and the ability of the projects to scale-up has been limited.

Special attention has been placed in raising awareness and providing associated training and transfer of knowledge to key policy and decision makers as well as practitioners and professionals of the region. For example, through the Red GeALC project (#103819), 3900 public officials have been trained through an e-government course that has been offered 31 times. This capacity development support provided through the project has arguably contributed to the improvement in the performance of the countries in e-government implementation. Consider the example of Colombia, a country that was recently judged by the United Nations as the leader in the area of e-government in the region[91]. Colombia has been the most active member in of the Red GeALC for the last six years in terms of public servants taking e-government courses (over 2,000 trained) and their involvement in the network's project planning activities of the network. While we cannot attribute causality here with certainty, certainly these activities have contributed to Colombia's considerable improvement in e-government performance.

Perhaps more intangible, but not less important, is the fact that institutions that were traditionally geared towards implementation projects (such as OAS, IDB, PAHO, etc) are increasingly accepting the crucial role of research in development and are both approaching IDRC for support in this area and transforming their institutions to integrate more knowledge generation in their activities.

3. *CEA/ICA supported work has generated evidence that has informed the design and reform of institutions, policies, regulations and laws in LAC*

In this section we focus on cases where CEA/ICA-supported projects have managed to inform and affect the development of laws, regulations, programs, or the design of institutions in the region (i.e., affecting policy regimes). The following paragraphs provide some examples to illustrate the different areas where the PI has worked.

<u>"The information society": Evidenced-based decision making in LAC</u>

Improving the availability and quality of data that LAC governments use to inform policy development has been the central feature of the Observatory for the Information Society in LAC (OSILAC) project. Reliable data is crucial for making any informed decision. Good governance and the development of successful and targeted policies depend upon quality data on a wide range of socio-economic indicators. Only four years ago, most countries in the LAC region had no official data related to information society indicators and the few that collected had very basic information. There were significant differences in the data depending on the sources consulted, mostly because they were

based upon poor statistical methodologies and, in some cases, influenced by vested interests. Today, after an intensive and sustained work in partnership with the UN Economic Commission for Latin America and the Caribbean (ECLAC) most countries of the region have integrated into their home and business surveys one or more ICT modules. In November 2009, the System of Statistic Information on ICTS consolidated the answers of more than 9 million people pertaining to more than 2.3 million homes interviewed during the last 9 years. The sample size allows the extraction of robust conclusions about the progress and evolution of the access and use of ICTs through the last years. This means that today governments, private sector, and civil society actors can make far more accurate and informed decisions. The impact of this project in the region will last for a long time and given the nature of the change produced will have consequences and implications that are difficult to track and measure, but are certainly significant and of high relevance.

Knowledge, Health and Youth

The spread of the HIV-AIDS virus among youth at risk has been very high in the LAC region. The lack of access to adequate information on the HIV threat and the related social stigmas left youngsters in a situation of isolation and vulnerability. The Punto J project has made a significant long-lasting difference in overcoming this situation. By developing a virtual meeting place for teenagers around the HIV and other sexual health issues, the project managed to create a secure and confidential environment where youth from all over Peru (but also from other countries of the region) are able to learn, consult and share experiences in their own language and terms. A team of health professionals behind the scenes supported the work of the Punto J team and provided accurate and reliable information. Based on an innovative and creative portal using "youth to youth", education on sexual health and HIV/AIDS, peer guidance has been provided to more than 4,000 youth in the region seeking advice on HIV/AIDS[92]. The project has been so successful that it has been endorsed by the Ministry of Health of Peru for its implementation across the country and has been adopted by six other countries in the region. Given the nature of the issue and the logic that ruled the project, it has been difficult to track the specific benefits that the project has had on youth. However, one can extrapolate from 4,000 consultations and almost one million visits to the web site that many teenagers in the region have found solutions to their problems in the initiatives and many more have avoided the virus through the learning acquired through the portal[93].

Another project on the role of ICTs in an epidemiological vigilance system for the Chagas disease has been developed, implemented and assessed in 4 localities in Argentina and Bolivia. The project is showing signs of considerable success. Indicative of this success is the fact that public authorities in Argentina have approached the project staff to extend the pilot to include other localities as well as to adapt it to respond to other diseases that affect marginalized population (such as Dengue).

Research, evidence and jobs

Continued work on the area of open business models[94] is helping develop practical solutions and policy recommendations to deal with the "informality issue" of open business models in cultural and creative industries (in Brazil and other Latin American

countries). A clear example of policy influence is the fact that Brazil President's office has requested project contributions to the Brazilian broadband plan, which includes the presentation of proposals to address the formalization process of LAN-Houses (one of the main focuses of this project). Recently, LAN-Houses, a major element of digital inclusion in Brazil have received a special category on the part of the Federal Government that will make it easier for them to become legal, reducing informality[95]. The revision of the policy framework was informed by CEA/ICA supported research which is helping define a new yardstick for the regulation of the sector. The research team is directly involved in the preparation of the Civil Framework for the Brazilian Internet, the first legislation in the country to establish rights and duties of society, companies and the government in the network[96].

The Telework and the Disabled project (#104417) has had a significant impact in the legislative realm. It was the impetus for the first ever policy debate on work opportunities for the disabled in the Dominican Republic and in El Salvador. In the Dominican Republic, Colombia and Peru, issues related to telework and disabilities were raised in parliament and laws have been reformed. A book[97] including research results from the Telework and the Disabled project was launched at the Argentinean Senate in June, 2009 and also influenced the debate related to the Law 1221 passed by the Colombian Congress[98].

The research results developed by the research project “Determinants of the knowledge base economy: the ICTs in Costa Rica”[99] provided a detailed analysis of the balances and unbalances between the current supply created by the educational system and the demands of the ICT industry in Costa Rica. It showed that in 2007, there was demand for at least other 2,000 workers in the sector resulting in an estimate loss of $72 million to the country due to the lack of qualified human resources. Based on these results, the Presidency of Costa Rica announced on September 4, 2008, the formation of a tripartite commission composed of representatives of academia, private sector and government to elaborate a National Plan for the Formation of Human Resources in the ICT sector[100].

Market structure, prices and policies

In the Andean Region, a component of the project “Communications for Influence” (#104576) established a network of organizations focused on policy influence related to universal access. The project examined the political bottlenecks that limit the expansion of broadband in this sub-region. Among the actions, the project attempted to include civil society’s perspective in Ecuador’s new communications law. This law comes out of Ecuador’s new constitution that incorporates the right to communication. AndinaTIC Ecuador, in conjunction with other civil society organizations provided conceptual, legal and technical inputs to government representatives, the National Constituent Assembly (responsible for approving the law) and regulators, to aid in design of the law from a civil society perspective[101].

As part of the CEA/ICA DIRSI project (#103371), the Support Mechanism for Telecommunications Regulation in Latin America, known as MARTA (Mecanismo de Asistencia para la Regulación de las Telecomunicaciones en América Latina) was designed to facilitate the work of regional experts and researchers with current regulatory themes. Regulatory agencies and organizations from government, civil

society and academia are able to request assistance from this program for short research projects and policy reports in key areas of the Latin American regulatory agenda. This program has contributed to wide range of debates related to regulatory reform across Latin America and the Caribbean, including the role of 450 MHz band to reinforce Brazil's universal access[102] and over tariffs in Mexico[103].

4. *CEA/ICA has played a key convening role in the ICT4D area in LAC and has created valuable institutional spaces for multi-stakeholder collaboration and knowledge sharing*

When the PI began, knowledge and skills in ICTs were scarce in the region and regional fora, spaces and institutions aiming to address development problems through ICTs were largely absent. The PI has been quite successful in addressing this weakness and has managed to establish and build a number of initiatives that have matured to become regional drivers to address key development problems in the region. The work of IDRC through CEA/ICA's regional profile came to fill an institutional vacuum in the ICT development agenda of LAC. Most other multilateral and regional agencies operated on a bilateral basis with countries of the region, were geared to finance implementation projects, and had little or no instruments to engage civil society organizations, academia and the private sector.

The program has developed a number of projects that bring together several countries to collaborate on tackling particular development challenges of the region. It has also gained the reputation of a non-partisan, objective organization with the power to convene key players from academia, civil society and public and private sector under a common programmatic umbrella. And CEA has done this with knowledge creation as the driver of project development, and knowledge-based solutions as the goals of those initiatives[104].

During this programming period, the PI continued to support some initiatives that featured multi-stakeholder dialogue as the very essence of the project. This is the case of CIVIC (#102243 and 103823), a project that reflects the modus operandi of ICA in its previous phase. These types of projects generally have not been sustained in this recent work period; however, in this case, the initiative was extended for a final period since it had effectively served the ICT4D community in the Caribbean as a mean of developing, sharing and implementing new knowledge.

As a result of the program's efforts, CEA/ICA supported initiatives have become both crucial references for and points of convergence for a wide variety of ICT4D stakeholders in the region. Among these are not only research centres, government, private sector players and civil society, but also regional and international institutions such as the World Bank (WB), the Inter-American Development Bank (IDB), the Pan American Health Organization (PAHO), the Organization of American States (OAS), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the United Nations Development Program (UNDP), the Economic Commission for Latin America and the Caribbean (ECLAC), Development Gateway, and InfoDev among others.

In the case of ECLAC, early investments in the development of the Observatory for the Information Society in LAC (OSILAC) provided the rationale to position the issue within

the organization and to engage in ICT awareness and support some divisions of the Commission. That initial IDRC investment set the stage for other larger contributions from funders like the European Union. Today ICT research is a consolidated and expanding area of inquiry within one of the leading social science think tanks of the region. The OSILAC project has also lead to the emergence and consolidation of an ICT area (with a responsible officer and associated resources) in a number of National Statistical Agencies of the region. OSILAC also monitors the achievements inside the Strategy for the Information Society in Latin America and the Caribbean – eLAC.

In addition, a number of research projects became associated with goals inside the regional action plan eLAC 2010[105]. Among others, the creation of portals through RELPE (the Latin American Network of Educational Portals) is recognized as a regional goal. Red GeALC is the key regional network on topics related to e-government. DIRSI is contributing to the monitoring of issues related to infrastructure and access. Other projects associated with regional goals are the "Regional Platform on Personal Computer Electronic Waste in Latin America and the Caribbean Project" (#104414), "Strengthening the Regional Capacity to respond to security incidents in Latin America and the Caribbean" Project with the Latin American and Caribbean Internet Addresses Registry (LACNIC) (#105237) and, the "Information and Communication Technologies for Vocational Training among Micro, Small and Medium Enterprises" Project with the International Labour Organisation-CINTEFOR (#105236). According to a survey with stakeholders of civil society, government, academia and private sector, IDRC figures as one of the three most important actors in the regional agenda[106].

The RELPE[107] project is a creation of CEA/ICA in partnership with Fundacion Chile. From the initial four members (Ministries of Education of Chile, Argentina, Colombia and Ecuador) the membership has expanded to include all Spanish speaking countries of the region. The Network developed a governing body and has become the preferred mechanism for Ministers of Education of the region to convene to explore innovative solutions to the educational challenges for the region[108].

A similar process can be identified at the OAS where initial CEA/ICA funding launched a regional project on electronic government (e-government). The project provided the basis to set up the Red GeALC (Red the Gobierno Electronico en America Latina y Caribe - in Spanish)[109] initiative, which today is the central point for most e-government related activities in the region. The creation of the Red GeALC network with the OAS as the convener led to the creation of e-government institutions (divisions, directorate, office, etc) in various countries of the region. From Red GeALC, a new regional network on electronic procurement was born which has also become a regional hub for innovation in public procurement in the region. Today the OAS is the Executive Secretariat of both initiatives and as of late 2009, the e-government and e-procurement initiatives have been absorbed by the Department of State Modernization and Good Governance to make them part of their regular portfolio of activities with associated personnel, funding and other required resources.

CEA/ICA has also managed to attract the attention, participation and funding of other regional and international agencies in projects of its creation. Project examples of this achievement are: (a) e-Procurement (#105243) that has attracted the attention and investment of the MIF (Multilateral Investment Fund of the Inter-American Development

Bank - IDB), various Division of the IDB, the OAS, and governments of the region; (b) OSILAC (#104416) where the European Commission through its cooperation program @LIS (Alliance for the Information Society) has contributed a significant amount of funding, (c) Red GeALC (#103819) that received the support of Canadian International Development Agency (CIDA), the Regional Publics Good Fund of the IDB, and governments of the region, (d) RELPE (#103811) with funding from the IDB and contributions from a number of private sector companies, (e) the Open Business Models project (#103812) that has managed to build a partnership with the Brazilian Support Service to Micro and Small Enterprises in Rio de Janeiro (SEBRAE / RJ), and the IDB to fund an extended implementation of the project, and (e) the Knowledge for Value Chains project (#106064) that has received contributions from the Catholic Relief Services, the International Centre for Tropical Agriculture, the SNV Netherlands Development Organisation and, the SwissContact Foundation.

The experience gained through these projects indicates that there is no single model of creating institutional spaces for multi-stakeholder dialogue and research on ICT4D. Modalities are very diverse and change in scale and scope with the evolution of the project. Some, like RELPE, are working to become stand-alone institutions with all the organizational and legal requirements to operate in the region. Others, such as the e-procurement initiative, have achieved a strong financial and institutional backing from key regional players (such as IDB, OAS, and governments of LAC) and have settled for the time being into this model. Red GeALC and OSILAC, instead, have been largely assimilated by the host institutions and their sustainability is largely built into the regular structure and operations of the hosts. Finally, there are some research networks (such as DIRSI, CIVIC, etc.) that, despite having produced and successfully disseminated valuable new knowledge, have found it more difficult to develop an institutional profile that would allow for long term consolidation.

5. CEA/ICA has produced innovative and relevant research to help address the region's development challenges

The PI, during the past programming period, has produced relevant research findings representing significant knowledge generation in a field that is in still relatively young. For more details on the new knowledge generated by the PI through its work, see Section on Research Findings. The effectiveness of the program at promoting the dissemination and utilization of research findings can be judged by the various outcomes presented in this section and by the name and reputation that the program has built in the region.

LESSONS

The implementation of the prospectus during the current programming period has rendered a variety of lessons that could enrich future program development at IDRC. Some of the main ones are presented below and are organized as follows: (1) project management, (2) communicating research findings, (3) policy influence, and (4) partnerships.

1. PROJECT MANAGEMENT

The experience gained through the design, development and implementation of projects during the current prospectus cycle point to various factors to take into account to improve the likelihood of success of a project. Some of the main ones identified are:

Start small and allow time for growth and consolidation

The "start small" principle should be taken into account in particular where institutions capable of producing high quality work are relatively new and/or small. This principle, of course, does not apply where the recipient institution is trusted and has sufficient knowledge to successfully carry out a relatively large project.

In the case of building knowledge networks, the notion of starting small and growing with time is especially relevant. The experience with projects, such as RELPE (#103811), OSILAC (#104416), and Red GeALC (#103819) shows that even if due to equity reasons one intends to include a large number of partners from the beginning, many of them will not be prepared or willing to join the initiative. In areas, such as ICT4D where projects mostly deal with innovations understood and adopted only by a few, it is not realistic and/or desirable to start in ways other than small and with committed lead partners. It is also true that given that social science knowledge associated to technological innovations generally takes time to be developed, disseminated and adopted, it is essential that projects are granted the time required to build a critical mass of both new knowledge and innovation adopters. Hence, one should not expect significant and tangible results of ICT for development interventions during the first couple of years.

Remain involved during the project life cycle as much as possible

The practice of rPCRs with three stages along the life cycle of a project is an important monitoring and evaluation tools as the project unfolds. One element that regularly emerges as a key factor in improving the likelihood of success of a project is the level of involvement of the program staff responsible for the initiative. There seems to be a close correlation between the level of involvement of the PO in the project and the quality of the outcomes of the project. This has been the case in projects like DIRSI (#103371/105249), OSILAC (#104416), CDERA (#103827) where the varying levels of staff involvement due to changes in the internal human resources structure of the PI lead to varying levels of performance of the project.

2. COMMUNICATING RESEARCH FINDINGS

As indicated in the previous section, effective communication of project findings is key to the success of the project (be it in policy influence/formation/reform or in the establishment of new lines of thinking/knowledge around key development challenges). Project results during the period under review highlight at least three elements for consideration.

Good researchers are often bad communicators

The experience of the PI with some projects has suggested that effectively communicating research results requires skills that researchers often do not possess. Monitoring of projects has shown that most researchers are so deeply involved in the rolling out of the research itself and the dynamics of research cycles is so tight and sequential that there is little time, energy, resources, and/or interest to engage in effectively communicating research findings during or after the life of the project. Providing training on communication techniques to researchers does not seem to make much of a difference. It is for that reason that the PI has searched for alternative means of improving the communication of research results. In several cases resources have been set aside for the purpose of hiring a professional in charge of this function and preliminary results are encouraging.

Without evidence there is no message

The monitoring and evaluation components of projects also often suffer from researchers' lack of time, skills and interest. In most cases, researchers find it very difficult to carry on research while concurrently keep track of relevant data and indicators that are being produced by the project as it moves on with implementation. There is considerable agreement among scientists and communicators that effective communication is increased when there are concrete and measurable results that one can easily and simply convey. Taking this into consideration, the PI has required most projects to hire a professional responsible for tracking indicators of progress as well as finding means to effectively communicating them to target audiences. Although adaptations are also based on the characteristics of individual projects (including life cycle, target audience, etc), the approach has led to increased focus on tangible development outcomes.

Times have changed and so has the means of communications

Policy influence is a complex process and it requires long-term efforts to engage stakeholders interested in specific changes. New forms of communicating research and engaging diverse stakeholders are emerging and new ICTs are increasingly important intermediaries in the dialogue within the Latin American and Caribbean society. In addition to traditional forms of research dissemination such as books, scientific papers and policy briefs, the use of interactive web-based services and applications such as blogs and social networking sites are becoming increasingly important mechanisms for collaboration and dissemination of results. These technologies - known as Web 2.0 technologies – are playing an increasing role in linking research and policy. Different projects have experimented with new forms of communication to effectively link policy,

research and advocacy and this expertise in collaborative technologies developed in ICT4D research projects is increasingly fundamental in every area of research.

3. POLICY INFLUENCE

Based on the experience gained during the current programming cycle the PI has come to broadly identify various approaches to influencing policy with different levels of involvement of policymakers in the process. Each of these three broad approaches to policy influence (presented below) might be useful according to the social, political and economic circumstances in which the project unfolds.

The silos approach

Under this first scheme research projects are developed without establishing a direct contact with policy makers. The research is carried out to its conclusion in relative isolation from the policy process and it is only at the dissemination stage that research findings are communicated and shared with the policy community with the expectation that the research will be picked up and used by policy makers. Under this approach the rate of policy influence is generally lower when compared with other strategies that build stronger links with the policy community. However, there are certain projects or times during the project life cycle when this approach would be the most appropriate. In the early stages of certain projects, until the research agenda is consolidated or until the research network or team is confident of the work they are doing, it might be wise to avoid the direct influence of policy makers that might want to impose a different research agenda. This is often true when the research project is geared to provide a constructive criticism of existing policies in the area under study. A good example of this approach is DIRSI (#103371) which followed this path throughout the life of the initiative.

The personal engagement approach

Under this approach a mechanism is set by which individual policy makers in the area are invited to participate in the design and development of the project (either on a personal or official basis) with the aim of both responding to the current policy agenda and increasing the likelihood of having an influence on it. This strategy offers increased chances of adoption of research findings. Yet, given the volatility of the political landscape in many developing countries, it is also quite possible that if the policymaker involved in the project is displaced by a political change, the project and its recommendations will suffer a similar fate. During this programming period the PI has supported very few projects that embraced this approach.

The structural approach

To avoid the possible risks associated with the personal approach and to have a better chance of influencing policy than in the silos approach, the PI has recently developed a strategy in which the bridge between the two communities is built in a more structural way. Governments that express serious interest in considering the research finding for policy development or reform have the possibility of integrating into their team a young professional. These young professionals will also be a part of the research team with the role of transferring, on a regular basis, research results and project progress to the governments. The approach also includes some seed funding to promote the possible

adoption and implementation of research funding. This scheme has been recently adopted by the PI. While it is an attempt to incorporate learning on this subject, it is not clear yet if the approach will have the expected results or if it will face significant hurdles and there will be much learning to be done in that regard.

The learning of the PI during this period is that the type of approach adopted by each project will largely depend on the type of institution that is leading it, the willingness (eagerness) of the researcher to engage in influencing policy, the strategies set at early stages of the project which are largely dependent on the nature of the subject, and the current local factors associated with the initiative.

4. PARTNERSHIPS

The engagement of partners before, during or after the life cycle of a project (through parallel funding, in-kind resources, institutional support, etc) is a positive indicator of the value that other organizations in the region attribute to the work the PI does. The experience accumulated, however, indicates that prior to engaging in any partnership the PI needs to carry out a thorough assessment of the costs and benefits of the coordination effort. Often, the working culture, flexibility and extent of bureaucratic requirements and procedures of the partner institution are strong determinants of a viable or unviable partnership.

When a partnership seems difficult or impossible due to rigidity of internal procedures of both organizations, a parallel funding approach is the most appropriate (although not ideal) solution. This allows both organizations to support the initiative without having to report to each other or have accountability or procedural obligations that might hamper the relation and the support to the activity. However, in a parallel funding scheme it is important that the PI engages the other partner on a one to one basis and jointly coordinates the work plan for the project. If not, and if the other partner is more powerful in terms of the actual financial contribution to the activity (or the likelihood of a future large contribution), it is quite likely that the project team will become more responsive to the demands of the other funders (even if the project was a creation of the PI) and might create considerable distortions to the original objectives of the initiative. Some possible ways of diminishing this risk include setting up a multi-donor advisory committee or other similar mechanism through which donors can coordinate their actions and reach consensus on key issues related to the activity.

Beyond the institutional aspects, there is also a human component (i.e., the individuals with whom we work, their effectiveness, their spirit of collaboration and genuine interest in the partnership). While this component will not determine the existence (or not) of the partnership, it will certainly affect the degree of success of the project, as well as the likelihood of long-term collaboration and the rise of other joint initiatives. The experience with various regional and international organizations and the divisions/individuals within them tend to confirm these lessons learned during the past programming period.

[1] For more details on the other IDRC´s ICT4D programs for other developing regions see: http://www.idrc.ca/en/ev-43441-201-1-DO_TOPIC.html and "IDRC Strategy and Program Directions Framework" at: http://www.idrc.ca/en/ev-70264-201-1-DO_TOPIC.html

[2] "e-" points to the new ways of in which activities across the globe are carried out due to the integration of information and communication technologies to all aspects of human life. The letter "e" referred originally to electronic, yet today its meaning has far exceeded the electronic aspect of activities carried out in a virtual manner across networks around the world.
[3] Figures include CAD 1.500.000 for a Project on Public eHealth Innovations in Latin America and the Caribbean. The Project approval was delayed due to negotiations involving additional funding from CIDA.
[4] Pan Americas used to work fundamentally with Civil Society Organizations (CSOs) while ICA was more geared towards working with policy institutions, including high- ranking decision-makers in governments (ministers), multilaterals and regional and international donors (IDB, OAS, etc.),that would increase the effectiveness and probability of policy engagement and policy influence associated to CEA/ICA projects
[5] During the 2006-2010 period, an 87% of total CEA/ICA funds has been allocated to multi-country projects.
[6] Most single country allocations were concentrated in Brazil, Costa Rica and Chile, identified in CEA/ICA prospectus as "regional ICTs engines", countries with the capacity to implement highly innovative iniatitves to test its potential replicability to other countries in the region. In some of these cases a subsequent project phase was approved which extended the project scope to involve more countries of the region.
[7] The approach adopted in DIRSI (#103371/105249) in its most recent phase is an example of this mixed approach.
[8] The criteria for including a project in an specific subregion was that the project involved countries only from that subregion. Projects involved countries from different subregions where either classified under Latin America or Latin America and the Caribean (when the project included countries both from Latin America and the Caribbean).
[9] www.eclac.cl/socinfo/osilac
[10] ICT, organizational change and firm performance: Some evidence from Argentinean Innovation Survey - Elisa Calza &Sebastián Rovira: http://irims.idrc.ca/getDocument.asp?documentNumber=252670 (page 323)
[11] TIC, capital humano y productividad en la industria manufacturera colombiana - Luis H. Gutiérrez http://irims.idrc.ca/getDocument.asp?documentNumber=252670 (page 229)
[12] Patterns of Internet Use in Latin America –Grazzi: http://irims.idrc.ca/getDocument.asp?documentNumber=252670 (page 63)
[13] ICT Access in Latin America - Evidence from Household Level – Grazzi & Vergara: http://irims.idrc.ca/getDocument.asp?documentNumber=252670 (page 26 & 101)
[14] Peres, W. and M. Hilbert (2008), La Sociedad de la Información en América Latina y el Caribe: Desarrollo de las Tecnologías y Tecnologías para el Desarrollo, ECLAC Institutional Book, N. 98, (LC/G.2363-P), Santiago, Chile.
[15] www.dirsi.net
[16] Argentina, Brazil, Colombia, Jamaica, Mexico, Peru, and Trinidad & Tobago.
[17] Digital Poverty: Latin American and Caribbean Perspectives - Mariscal, J. & Galperin, H., eds. Practical Action Publishing/IDRC 2007 http://www.idrc.ca/en/ev-112564-201-1-DO_TOPIC.html
[18] The results of the study were extensively covered in the general as well as the specialized press and recognized by international bodies (e.g. by ITU). See also: http://dirsi.net/en/node/93. More details at http://www.idrc.ca/en/ev-132529-201-1-DO_TOPIC.html
[19] Particularly in Mexico and Peru, countries that were revealed to be falling behind in mobile diffusion among the poor). For details, see http://www.apc.org/es/pubs/research/ecuador-inputs-civil-society-formulation-communica.The debate among different constituencies still continues.
[20] Including the concept of "Digital Poverty" itself as depicted in "Digital Poverty: Latin American and Caribbean Perspectives" - Mariscal, J. & Galperin, H., eds. (2007), http://www.idrc.ca/en/ev-112564-201-1-DO_TOPIC.html and http://dirsi.net/en/node/381
[21] Including the second phase of the project "Regional Dialogue on the Information Society (DIRSI)" (#105249), the Andean component of the "Communication for Influence" (#104576) and the "Rethinking Regulation" component of the "Networks for Development in the Caribbean" (#105818-002) projects.
[22] http://www.idrc.ca/en/ev-139014-201-1-DO_TOPIC.html
[23] http://irims.idrc.ca/getDocument.asp?documentNumber=252615
[24] http://www.wcce2009.org/proceedings/papers/WCCE2009_pap247.pdf
[25] A proposal for a network of exchange of digital education content is under development by leading vocational training organizations in order to identify ICT based strategies that would reach formal and informal SMEs (CINTERFOR, project #105236)
[26] Many Latin American and Caribbean countries have GINI coefficients above 50 putting them in the 'very high' levels of social inequality category. See: http://www.depeco.econo.unlp.edu.ar/sedlac/eng/maps.php
[27] www.redgealc.net
[28] See: Final Technical Report (#103709)
[29] Ibid
[30] Of course, questions of if and how ICTs can empower communities through transparency and participation still remain, in particular depending upon the extent of transparency and the depth of participation. Drawing from experiences during the implementation of CEA, recent projects are starting to explore in more subtle and complex ways the notion of participation and transparency, in particular within e-government policy and practice. The project "Strengthening Procurement Systems in Latin America and the Caribbean" (#105243) is researching issues such as different means of expanding the possibilities for micro- and small enterprises to compete and participate as a supplier to the public sector, and the use of standards for improving the overall transparency and thereby interoperability and reach of public procurement systems in LAC. A recently approved project, entitled "Innovations in E-government" (#105449) was developed in response to these learning. The project design relied on a survey of e-government leaders who identified research on a more citizen-centred e-government strategy as a priority area where research could benefit e-government policy and practice. Similarly, project (#106111) will work with the Centro de Estudios de Justicia en las Americas (CEJA) to explore good practices in the use of ICTs to expand transparency of and access to the justice system of the region.
[31] www.puntoj.com.pe
[32] See: First Interim Report (#104544)

[33] Telework for the inclusion of people with disabilities in the labour market. Boiarov et al. 2009 El Cid Editor http://www.idrc.ca/en/ev-139011-201-1-DO_TOPIC.html. For press coverage on the book see: http://www.idrc.ca/en/ev-129618-201-1-DO_TOPIC.html
[34] Project # 103812 http://www.idrc.ca/en/ev-139357-201-1-DO_TOPIC.html
[35] See also: http://publius.cc/lan_houses_new_wave_digital_inclusion_brazil/091509
[36] http://www.itrainonline.org/itrainonline/mmtk/wireless_es.shtml
[37] Since 2008, the free online book has been downloaded over two million times, and Eslared (recipient institution) was recognized by the 2008 Jonathan B. Postel Service Award for its "sustained efforts to bring scientific, technical and social progress in Latin America and the Caribbean".
[38] Project Democratizing Information in Agricultural Produce Markets (#105881)
[39] Networks for Development: the Caribbean Information and Communication Technologies Research Programme (#105818)
[40] Mobile Opportunities 2.0 in the DIRSI phase II project (#105249)
[41] Some examples are the projects: Impact 2.0 (#105246) and, "Opening up Global Value Chains for Development: web 2.0 technologies and the productvity and export-oriented strategies of SME" (#10523)
[42] See: http://irims.idrc.ca/getDocument.asp?documentNumber=250606 (page 5)
[43] Brecha digital, brecha de género? Mujeres y hombres en América Latina: Panorama regional de Difusión de Computador e Internet" and "Entendiendo las implicaciones de género en la Sociedad de la Información: un análisis de los determinantes de uso de Internet" - Martha Sánchez Galvis (2009)(http://irims.idrc.ca/getDocument.asp?documentNumber=252780 and http://irims.idrc.ca/getDocument.asp?documentNumber=252670 (page 153)
[44] Social inclusion through ICTs can extend beyond the economic sphere to engage and empower youth in other domains. In the Punto J project (#103077), ICTs provided a means to engage youth and provide peer support and credible information on the sensitive topic of HIV/AIDS. From the inception of the project until the end of 2009, there were almost one million visits to the Punto J portal, with 94% of youth users surveyed stating that the information provided was very useful.
[45] http://irims.idrc.ca/getDocument.asp?documentNumber=252659. See also http://nextbillion.mit.edu/
[46] See http://www.mit100k.org/. The development portion of the MIT business plan competition has had a record number of entries in 2008 and 2009, making it the most popular part of the competition.
[47] EPROM http://eprom.mit.edu
[48] integrisglobal.dabbledb.com
[49] See DINIZ, Eduardo; JAYO, Martin; CHRISTOPOULOS, T.P & YOKOMIZO, C.A. (2009) "The Role of ICT in the Microfinance Model of Brazilian Banks and the Use of Banking Correspondents" Proceedings of IFIP 9.4, 9th International Conference on Social Implications of Computers in Developing Countries, May 26-29, Dubai, Emirates. http://www.ictformicrofinance.org/sites/default/files/11.pdf
[50] For details of the proposed typology, see http://www.ictformicrofinance.org/sites/default/files/15.pdf
[51] JAYO, Martin & DINIZ, Eduardo (2009) "Uso de Correspondentes Bancários como Canal de Distribuição de Serviços Financeiros: o Papel dos 'Gestores de Rede'". Accepted for presentation and publication in the Proceedings at AMCIS 2009, 15th Americas Conference in Information Systems, Sao Francisco, August 2009. http://www.ictformicrofinance.org/sites/default/files/13.pdf
[52] See http://www.ictformicrofinance.org/?q=node/46 for a list of publications
[53] A recent seminar presenting the research included some key players in the Brazilian and Latin American inclusive finance debate, such as Febraban, Banco Central, STRO, IFC, Brazilian and Mexican banks, Brazilian and Mexican MFIs, Brazilian Federal Government officers. Video of the seminar is available at http://www.vimeo.com/8768172
[54] Some other promising active project exploring the issue include, the project "ICT for Vocational Training for Micro, Small and Medium Enterprises" (#105236) led by OIT/CINTERFOR is exploring how Information and communication technologies (ICTs) can help vocational training institutions reach these underserved communities across the region54. Different institutions are developing and validating strategies for using ICTs for disseminating knowledge in strategic clusters of SMEs in five countries in Latin America and the Caribbean (Brazil, Argentina, Colombia, Guatemala and Dominican Republic). This will make use of the pervasive nature of ICTs to expand the formal and informal capacity building among youth and SMEs. Other project is the project "K4ValueChains - Leveraging Information and Knowledge for the Development of Inclusive and Sustainable Agricultural Value Chains" (#106064) with the Learning Alliance is examining the how ICTs can leverage the development of sustainable and inclusive value chains in Central America. Based on a systemic analysis of the information systems in place in the different value chains, young leaders will be empowered with innovative ICTs to promote the participation of the smaller firms and youth in five agricultural value chains (coffee, cacao, vegetables, honey and beans) across three countries in Central America (Nicaragua, Honduras, El Salvador).
[55] See Carden, F. (2005) Capacities, Contexts, Conditions: The Influence Of IDRC - Supported Research On Policy Processes. IDRC´s Evaluation Highlight No.5 available at: http://www.idrc.ca/en/ev-90666-201-1-DO_TOPIC.html; and Carden, F. (2009), Knowledge to Policy: making the most of development research, New Delhi, Ottawa: SAGE Publications India, and IDRC. The crucial point about this typology is that it goes well beyond changing particular policies, laws, decrees or administrative decisions. They include building the capacities of both researchers and decision-makers to use knowledge and evidence to make policy, and also the broadening of the conceptual boundaries of the whole research-to-policy process. This approach is also cognizant of the relatively long time-lags involved in the "research to policy process".
[56] Research can introduce new ideas to the agenda, ensure that knowledge is provided to decision-makers in a form they can use, and nourish dialogues among researchers and decision-makers. To put it another way, research can improve the intellectual framework surrounding policy-making.
[57] Research can support the development of innovative ideas and the skills to communicate them, and develop new talent for doing issues-based research and analysis (Knowledge to Policy: Making the Most of Development Research, Fred Carden. http://www.idrc.ca/en/ev-135779-201-1-DO_TOPIC.html)
[58] Research findings can modify the development of laws, regulations, programs, or structures.
[59] Prior to the creation of CEA/ICA there were almost no institutions in the ICT4D area with a profile and mandate that would allow them to be a valued and respected convener of sectors as diverse as governments, private companies, NGOs, research institutions and multilateral agencies. The regional convener functions has reduced the duplication of efforts saving considerable resources, has

increased the scale and scope of the initiatives and has diversified its participants and contributions to increase the likelihood of success.

[60] eLAC- Strategy for the Information Society in Latin America and the Caribbean.
eLAC is a regionally concerted strategy that conceives of Information and Communications Technologies (ICTs) as instruments for economic development and social inclusion. It is a strategy with a long-term vision (until 2015) in line with the Millennium Development Goals (MDGs) and those of the World Summit on the Information Society (WSIS), which is concentrated on short-term action plans with concrete qualitative and quantitative goals to be achieved: eLAC2007 with 30 goals and 70 activities for the years 2005-2007. eLAC2010 with 83 goals to be achieved during the 2008-2010 period. In two different declarations, the governments of the region have committed themselves to achieve these goals.

[61] The eLAC process is supported mostly by the European Union. In recognition of its role, IDRC is also considered a sponsor. (IDRC's contribution is mostly related to the monitoring of the progress based on the work of OSILAC).

[62] For ELAC 2010, these areas are Education, Access, Health, Public Administration, productive sector and policy instruments and strategies.

[63] UNDP, 2004. "Democracy in Latin America" http://www.un-ngls.org/orf/democracy-undp-publication.htm

[64] The underlying rationale behind the e-Procurement project is that the improvement (more efficient and effective) of public procurement through its modernization and reform should result in significant cost savings to the state. However, improvements to public procurement extend well beyond cost-saving efficiencies. Reform that encourages increased competition can open up the market of selling to the government to a wider range of micro, small and medium sized enterprises (MSMEs) upon which economic development is broadly based in the region. Furthermore, reform can increase professionalism and transparency which can reduce corruption and poor procurement practices. This brings the dual benefit of improving the effectiveness of public procurement, as well as improving the trustworthiness of the public sector.

[65] See: Final Technical Report: http://irims.idrc.ca/getDocument.asp?documentNumber=202070 and http://www.summit-americas.org/vp/default.html

[66] www.chilenter.cl

[67] See: Smith, M., Elder, L. (2010). "Open ICT Ecosystems Transforming the Developing World", *Information Technology an International Development*, 6 (1) pp. 65-71. URL: http://itidjournal.org/itid/article/view/489/214.

[68] Selected abstracts with early versions of the papers can be found here: http://openict4d.wikidot.com/open-development:edited-volume-and-conference-2010

[69] For instance, the project Innovations in e-government (#105449) is pursuing research in the area of open government and the project Opening access to justice in the Americas (#106111). The project Opening up Natural Resource-Based Industries for Innovation (#105165) addressees how the ICT paradigm is providing a basis for the dissemination of new technologies in traditional sectors and opening new pathways for sustainable development in Latin America.

[70] For instance, the project Rights and Justice and the Social Web Movement (Latin America) (#104413) developed the Memorandum of Montevideo addressing the protection of personal data in social networks, focusing particularly in children and teenagers. It contains a set of recommendations on education policy, legal framework and law enforcement to educational institutions, governments and industry.

[71] Telework, New Forms of Work and Employment Opportunities (#103239) and Telework and the Disabled (Latin America) (#104417)

[72] http://www.eclac.cl/socinfo/elac/

[73] Telework and the Disabled (Latin America) (#104417)

[74] Telework, Climate Change and Public Policy (#105235)

[75] Open business is a different way of doing business related to information, knowledge and culture, in which intellectual property does not play the role of being either the primary incentive or the primary source of remuneration. Open business models include, for example, making content or services available free of charge and producing revenue through associated services that add value to the free content or services.

[76] The videos area avaliable at: http://www.youtube.com/watch_private?v=6ft0rvcljko&sharing_token=U-5PtlejHimzXwuXn3C8Gg==,
and http://www.youtube.com/watch_private?v=HVdOSYDCU5s&sharing_token=1ghmC1hj-G5YBkjpzAoB3A==, and http://www.youtube.com/watch_private?v=1XWPc_2Nf9A&sharing_token=SnxxKU95bILoLRAzPoEAYw==

[77] A project has just been approved to develop the first "consensus" document between the key governments and private sector companies to set basic standard, definitions and procedures to begin to tackle this matter in an articulated fashion in the region. See www.residuoselectronicos.net - Regional Platform on Personal Computer Electronic Waste in Latin America and the Caribbean (#104414)

[78] Another project in this line of work is project Social Impacts Research on 1x1 Models in Latin America (#104261). In the regional educational community there exists a significant concern related to the deficit of models of evaluation and of monitoring indicators when designing programs which include ICTs in educational initiatives. The need for such models is more pressing given the emergence of "1x1 models", which has been immersed in a cloud of frequently-uninformed debates. Taking into account the former considerations, the project "Social Impacts Research on 1x1 Models in Latin America" was designed to address this gap. The research allowed the introduction of an innovative methodology to measure the social impact of the 1x1 models, redefining "inclusion" (knowledge level of people involved) and "digital use" (level of use of main digital components such as computers, cellular phones, videos, chat, mailing) indicators as well as incorporating an evolutionary vision of the "digital gap" concept. Additionally, the project introduced a number of open source software for the measurement of "Internet consumption" with regards to each project implementation. This project is having relevant repercussions within different research communities, nationally and internationally. CEA/ICA has been one of the main driver of research in this field as recognized by lead actors working in this area. This project was mentioned in the article "Laptop Programs for Students" by Andrew A. Zucker and Daniel Light and published in Science (January 2009, Vol. 323. no. 5910, pp. 82 - 85), "In what is probably the first study of its kind, the Canadian government recently funded an evaluation of 1:1 pilot programs in Argentina, Costa Rica, Uruguay, and Columbia" (see complete article: http://www.sciencemag.org/cgi/content/full/323/5910/82)

[79] Pilot Project Using ICTs to Monitor Chagas' Disease in Argentina, Bolivia and Brazil (#103818).
[80] For IDRC, Capacity Development is the process by which individuals, groups, organizations, institutions and societies increase their ability to identify and analyze development challenges, and have the ability to conceive, conduct, manage and communicate research that addresses these challenges over time and in a sustainable manner.
[81] As part of the PI integrated approach to monitoring and evaluation, policy influence, and gender during the All Partners meeting in Montevideo, three modules on policy influence, M&E and communication were given to all partners. http://www.idrc.ca/cea/ev-132227-201-1-DO_TOPIC.html
[82] Examples of projects in which this modality was used: 1) Open Business Models in Latin America (#103812) with FGV as leader and partners from Argentina and Colombia; 2) Pilot Project Using ICTs to Monitor Chagas' Disease in Argentina, Bolivia and Brazil (#103818) with Universidad Nacional de Córdoba, Argentina as leader and Bolivian researchers associated with the Ministry of Health of that country as partner; and 3) Enhancing Nurses' Access for Care, Quality, and Knowledge through Technology (ENACQKT) project (#104544) with the University of Saskatchewan as the leader and the hospital partners including: the Joseph N. France General Hospital, St. Kitts-Nevis and the Victoria Hospital, St. Lucia.
[83] Mainly those in which senior researchers had a strong and solid academic background.
[84] http://www.edu.tt/cirp/cic/
[85] For instance, Martin Hilbert and Doris Olaya were young researchers leading the OSILAC project. They are now advancing their academic carrier respectively at University of Southern California (http://www.martinhilbert.net/) and ITU in Geneva.
[86] Small grants are considered a capacity building tool because (due to the amount and nature of the grants) they target young researchers that are in the formative stages of their career and provide much needed access to funds.
[87] The first time the mechanism will be applied is in project #105449.
[88] To provide just one example, the Telework, Climate Change and Public Policy project (#105235) is working with a few institutions with no experience on ICTs but that were very strong on environmental and climate change economics.
[89] For instance, the work with Fundación Tierra was import to build their capacity to communicate themes related to land reform and rural development (See http://www.ftierra.org for a range of multimedia material, including radio programs, e-books, maps and videos.). Nevertheless, their contribution to core questions of the prospectus and ICT4D research was not evident.
[90] Some of the projects that fall under this category are: Project 104411: Partnership in Opportunities for Employment through Technologies in the Americas (POETA): Eastern Caribbean Initiative; Project 103828: Connecting disadvantaged youth to quality employment through the use of ICTS (103828); Project 103239: Telework and the disabled; Project 103811: Consolidating and Integrating the Education Portals Network and Latin America Schoolnets; Project 105236: Information and Communication Technologies for Vocational Training among Micro, Small and Medium Enterprises and Project 103239: Telework, New Forms of Work and Employment Opportunities.
[91] See : http://www.gobiernoelectronico.org/node/6525
[92] This figure records not just visits to the Punto J portal but the actual interaction between youth (more than 4.000 questions on HIV/AIDS have been responded)
[93] Punto J users recognize the Project's impact in the change in youth sexual behaviour (see Project video http://www.youtube.com/watch?v=NT0CfUWDvh0)
[94] Open Business Models in Latin America Projects (#103515 and 103812)
[95] Without the special classification now in place, many LAN-houses were being classified under the category of "gambling, betting or entertainment". Under that category, the LAN-houses had to face very strict regulations, being subject to more strict laws and to a burdensome tax regulation. Fundação Getulio Vargas (FGV),the leading institution, is working closely to ABCID (Associação Brasileira de Centros de Inclusão Digital), the Brazilian Association of Centers for Bridging the Digital Divide is the largest association which represents Lan-Houses owners in Brazil, and its president, Mario Brandão, in helping the association to get in contact with the government officials, and providing technical support for the Association to cope with the over-regulation of the sector. Among the activities, FGV has organized a series of debates including government officials. These debates led to the creation of an official commission at the Brazilian Parliament.
[96] For a related article on the project leader, Ronaldo Lemos, see http://www.terra.com.br/istoedinheiro/edicoes/646/garoto-prodigio-conheca-ronaldo-lemos-o-jovem-advogado-que-faz-162655-1.htm
[97] Telework for the inclusion of people with disabilities in the labour market. Boiarov et al. 2009 El Cid Editor http://www.idrc.ca/en/ev-139011-201-1-DO_TOPIC.html
[98] by which "norms are established to promote and regulate telework " (Ley 1221 de 16-07-2008)
[99] Part of the Knowledge Economy Call for Proposals - Latin American and Caribbean -#102497.
[100] More details at http://www.idrc.ca/en/ev-132529-201-1-DO_TOPIC.html
[101] For details, see http://www.apc.org/es/pubs/research/ecuador-inputs-civil-society-formulation-communica.The debate among different constituencies still continues. See http://www.apc.org/en/node/9984
[102] The report entitled "Políticas de administración del espectro y acceso universal a las comunicaciones" was developed in Brazil during the second half of 2009, and contributed to the fostering of new ideas for the public policy discussion of telecommunication expansion to low-income users and rural and scarcely-populated regions. With the support from IDRC, through the DIRSI project, a group at the University of Brasilia (the Study Group on Telecommunication Law (GETEL)) focused on the issue of universal service and spectrum policy for rural, low-income, low-density areas. This study group helped to organize the first seminar on that topic at the Secretariat of Strategic Affairs of the Presidency of the Republic of Brazil entitled "Alternatives for Infrastructure Development and Broadband Access" on November 16th, 2009. At this seminar, the head of the Executive Office of the President Lula presented the guidelines of the Presidential Broadband Plan to be announced in the first half of 2010. Furthermore, the research resulted in a contribution to the public consultation 24/2009 which dealt with the assignment of the 450 MHz frequency to fixed and mobile networks in rural and underserved areas in Brazil. Among other issues, the report addressed cases of new entrants in Brazil, which shows the importance of the appropriate design of public policies that take into account alternatives for network deployment in rural and underserved areas. Besides the evident impact of such a project on the University of Brasilia's study group and the awareness of the Secretariat of Strategic Affairs on the related issues, the importance of this project can also be summarized by the fact

that one of the researchers from GETEL, after the mentioned seminar, accepted a position at the Executive Office of the President Lula as coordinator of regulation for the Broadband National Plan to be announced in the first half of 2010.

[103] By October 2009, the Federal Government of Mexico sent a proposal to the Congress to amend the Law on Special Tax on Goods and Services (IEPS) with the intent to include telecommunications in this special arrangement. A report by Ernesto Flores and Judith Mariscal from DIRSI argues that it would adversely affect economic growth, job creation and productivity. According with the report, the measures proposed by the government would increase from 15% to 21% tax burden on telecommunications and results in: (i) a reduction in mobile penetration between 2.2 and 4.3 percentage points, (ii) a negative economic impact between 20 and 80 billion pesos; and (iii) a growth resignment of between 1.7% and 6.8% for the next 10 years for Mexican economy. The report was sent by CIDE Mexico to key stakeholders: Telecommunications operators, senators, and civil organizations. The report´s main conclusions were also publicized by social networks and web 2.0 tools such as facebook, online news pages, blogs and twitter. A virtual microblogging campaign called #internetnecesario emerged at midnight on October 20th reaching the second position at the global ranking of Twitter trends topic and getting the attention of national and international media. The result was a reduction of the proposed tax to telecommunications services from 4% to 3% and no additional tax for internet access.

[104] For example, the Regional Platform on Personal Computers Electronic-Waste (#104414) managed to bring together government, private sector, NGOs, overseas development assistance agencies, regional organizations and academia to solve a problem that is multifaceted and requires collaboration and consensus among all partners. Something similar was achieved by the Rights and Justice and the Social Web Movement (#104413) which in the process of project implementation brought together actors as diverse as AGESIC (Uruguay) and IFAI (Mexico) (both are national data protection agencies), Privacy Canada, the Spanish Data Protection Agency, Save the Children and UNICEF. In the project Strategies to Consolidate and Integrate RELPE and REDAL Networks (#103811) ministries of education collaborated with researchers and private companies that provided solutions and content to support the initiative.

105 http://www.eclac.cl/socinfo/noticias/noticias/2/32362/2008-1-TICs-Compromiso_de_San_Salvador.pdf

[106] http://www.apc.org/en/system/files/APCAnalysisELAC_20081127.pdf

[107] Consolidating and Integrating the Education Portals Network and Latin America Schoolnets (#103811) www.relpe.net

[108] RELPE led in some cases to the creation of ICT related division/areas within ministries of education or in other cases, such as in Mexico, to the merging of two Divisions within the Secretaria de Education (equivalent to Ministry of Education) in order to become a member of RELPE. As of mid-2009 the regional ministries of rducation held meetings and exchanged views on how to turn RELPE into a regional institution. The project also led multilateral agencies, such as the IDB, to commit funding to support the institutionalization of RELPE given that is considered a very valuable initiative that should consolidate and expand.

[109] Supporting E-government in Latin America and the Caribbean (RED GEALC) (#103819 and 105449) – www.redgealc.net